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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/851,460 05/08/01 REINERS

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EXAMINER

000570 IM52/0706
AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.
ONE COMMERCE SQUARE
2005 MARKET STREET, SUITE 2200
PHILADELPHIA PA 19103

KRIER, K
ART UNIT PAPER NUMBER

1773
DATE MAILED:

4
07/06/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/851,460

Applicant(s)

Reiners et al.

Examiner

Kevin Kruer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/072,018.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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DETAILED ACTION

Specification

1. The attempt to incorporate subject matter into this application by reference to industrial test standard ASTM 1238 is improper because Applicant's disclosure does not enable one of ordinary skill in the art to duplicate the procedure associated with this industrial test. Applicant is required to add a description of the test procedure to the specification. The description should contain enough details so as to allow one of ordinary skill in the art to duplicate the test. Alternatively, Applicant may file a copy of industrial test ASTM 1238 with the office. The copy must predate Applicant's priority date.

Claim Objections

2. Claims 1-17 are objected to because of the following informalities: the term "of³" in line 4 of claim 1 is not clear. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "paper-like" is indefinite. Specifically, the term has no art accepted meaning and it is unclear how the laminate is like paper.

5. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the

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invention. The term "SiO_x" is indefinite because it is not clear from the disclosure what "x" represents.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4, 6, 7, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell et al. (Pat. No. 4,526,823) in view of Hattori (Pat. No. 4,526,823). Farrell teaches a plastic laminate sheet that comprises an outer layer of filled-plastic, an inner layer of HDPE, and an ethylene vinyl alcohol (EVOH)(col 4, lines 43-44) barrier layer interposed between the inner and outer layers (abstract). The EVOH barrier layer adheres to the inner and outer layers by an adhesive selected from the group consisting of copolymers of olefins and acid, and copolymers of ethylene and vinyl ester (col 4, lines 46-55). The outer layer has a thickness of 3-7mils (col 4, lines 60-66) and consists of propylene homopolymers or polypropylene/HDPE blends (col 3, lines 30-40). Farrell blends 5 to about 80 percent by weight filler into the outer layer (col 3, lines 55-61). The filler may be selected from the group consisting of calcium carbonate, talc, and mica (col 3, lines 35-40). The laminate may be thermoformed (see Pat. No. 32,60,777; incorporated by reference).

Farrell teaches that the thickness of each layer is not critical but does not teach the claimed filled layer:unfilled layers thickness ratio. However, Hattori teaches a thermoformable laminate

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comprising a filled polypropylene layer (abstract). Sufficient deep draw properties are obtained (col 5, lines 31-49) when the filled polymer sheet comprises 55-99.5% of the laminate's total thickness (abstract). Thus, it would have been obvious to one of ordinary skill in the art to vary the thickness ratio of the filled layer to the unfilled layers in order to obtain good deep drawing properties.

Applicant claims that the claimed laminate possesses better thermoforming characteristics. Applicant defines "better thermoforming characteristics" as (1) the film's packaging speed and (2) the film's thermoformability over broad temperatures. However, Applicant provides no packaging speed data. Furthermore, Applicant's Comparative Example #2 has as broad a range of thermoforming temperatures as Applicant's embodiments. Therefore, it is the examiner's position that Applicant's specification does not show unexpected results relating to the variation of the film thicknesses.

8. Claims 1-4, 6, 7, and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schirmer (Pat. No. 5,011,735) in view of Hattori et al. (Pat. No. 4,567,089). Schirmer teaches a thermoforming laminate comprising a surface film, a barrier film, and a sealant film (abstract). The surface film preferably comprises a polypropylene or ethylene-propylene copolymer (col 3, lines 40-45). The barrier film comprises an ethylene vinyl alcohol or a polyvinylidene chloride (47-63). The sealant layer comprises a polyolefin such as ethylene vinyl acetate (EVA) (col 3, lines 65-67). Adhesive layers may be utilized between each adjacent layer in order to provide sufficient bonding between the layers (col 4, lines 46-60), although adhesives are not required. Furthermore, the adhesives may be the same or different from one another. Each film may be

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crosslinked prior to thermoforming, preferably by irradiation by the use of high energy electrons, ultra violet radiation, X-rays, gamma rays, beta particles, etc (col 5, lines 24-60). Crosslinking is desirable because it broadens the temperature range at which the laminate may be thermoformed.

The laminate may be thermoformed on an FFS machine and sealed with a lidding film (see Background of the Invention).

Schirmer also does not teach that the polypropylene sheet may contain 40-75 wt% of an inorganic filler. However, Hattori teaches a thermoformable laminate comprising a filled polypropylene layer (abstract). The filler should comprise 5-60% of the layer and be selected from the group consisting of calcium carbonate, silica, talc, clay, mica, titanium dioxide, barium sulfate, and glass fiber (col 4, lines 12-19). If the amount of filler is less than 5 parts by weight, the heat resistance, stiffness, and dimensional stability of the thermoformed product is insufficient. Thus, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to add 5-50 parts by weight filler to the propylene layer taught in Schirmer in order to improve the laminate's heat resistance, stiffness, and dimensional stability.

Schirmer does not teach the claimed filled layer:unfilled layers thickness ratio. However, Hattori teaches a thermoformable laminate comprising a filled polypropylene layer (abstract). Sufficient deep draw properties are obtained (col 5, lines 31-49) when the filled polymer sheet comprises 55-99.5% of the laminate's total thickness (abstract). Thus, it would have been obvious to one of ordinary skill in the art to vary the thickness ratio of the filled layer to the unfilled layers in order to obtain good deep drawing properties.

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Applicant claims that the claimed laminate possesses better thermoforming characteristics. Applicant defines "better thermoforming characteristics" as (1) the film's packaging speed and (2) the film's thermoformability over broad temperatures. However, Applicant provides no packaging speed data. Furthermore, Applicant's Comparative Example #2 has as broad a range of thermoforming temperatures as Applicant's embodiments. Therefore, it is the examiner's position that Applicant's specification does not show unexpected results relating to the variation of the film thicknesses.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schirmer (Pat. No. 5,011,735) in view of Hattori et al. (Pat. No. 4,567,089), claims 1-4 and 6-15 above, and further in view of Bochow et al. (Pat. No. 5,449,552). Schirmer in view of Hattori is relied upon as above. However, neither Schirmer nor Hattori teaches that the sealing layer may comprise LDPE, or a blend of polybutene and LDPE. However, Bochow teaches a multilayer composite film comprising a filled polypropylene film, an adhesive layer, a gas barrier layer, a second adhesive layer, and a heat sealing layer (abstract). The heat seal layer comprises LDPE, polybutylene, ethylene vinyl acetate, ethylene acrylic acid copolymers, and blends thereof (col 2, lines 16-28). It would have been obvious to one of ordinary skill in the art to utilize LDPE, or a blend of polybutene and LDPE, as the sealing layer since Bochow teaches that both compositions are known in the art as good sealing layers in barrier films. The courts have held that the selection of a known material based on its suitability for its intended use supports a prima facie case of obviousness. *Sinclair & Carroll Co. V. Interchemcial Corp.* 325 U.S. 327, 65 USPQ 297 (1945).

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Furthermore, LDPE and blends thereof with polybutene fall under the broad teaching of Schirmer that the sealing layer should be a polyolefin.

10. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schirmer (Pat. No. 5,011,735) in view of Hattori et al. (Pat. No. 4,567,089), as applied to claims 1-4 and 6-15 above, and further in view of Applicant's Admissions. Schirmer in view of Hattori is relied upon as above. Neither Schirmer nor Hattori teaches that the lidding film may comprise the multilayered films claimed in claims 16 and 17. However, Applicant admits in the specification that both claimed lidding films are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to utilize either claimed lidding film because Applicant admits that both films are commonly used in the art as lidding films.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell et al. (Pat. No. 4,526,823) or Schirmer (Pat. No. 5,011,735) in view of Hattori (Pat. No. 4,567,089), as applied above, and further in view of Rosen (Pat. No. 5,635,011). Farrell or Schirmer in view of Rosen is relied upon as above. None references teach that the matrix polymer may be adhered without an adhesive to a layer comprising a blend of the matrix polymer with EVOH or PA. However, Rosen teaches that it is known in the art to blend a matrix resin with a barrier layer in order to eliminate an adhesive layer between two layers of a laminate (col 2, line 54-col 3, line 3). Therefore, it would have been obvious to utilize a blend of matrix polymer with EVOH or PA as the barrier layer of the laminates taught in Farrell or Schirmer in view of Hattori, because it is well known in the art that barrier layers comprising such blends adhere directly to layers of the matrix polymer, thus eliminating the need of an adhesive layer.

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12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell et al. (Pat. No. 4,526,823) or Schirmer (Pat. No. 5,011,735) in view of Hattori (Pat. No. 4,567,089), as applied above, and further in view of Blemberg et al. (5,108,844). Farrell and Schirmer in view of Hattori is relied upon as above, but none of the references teach that the matrix polymer may be adhered without an adhesive to a layer comprising a blend of the matrix polymer with EVOH or PA. However, Blemberg teaches that two layers may be adhered together by blending some of each composition into the adjacent layer (col 2, lines 25-31). Thus, it would have been obvious to one of ordinary skill in the art to utilize a blend of matrix polymer with EVOH or PA as the barrier layer of the laminates taught in Farrell or Schirmer in view of Hattori, because Blemberg teaches that two layers can be adhered together without the use of a tie/adhesive layer by blending some of each composition into the adjacent layer.

13. Claims 1, 2, 4, 6-11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bochow et al. (Pat. No. 5,449,552) in view of Hattori et al. (Pat. No. 4,567,089). Bochow teaches a multilayer, thermoformable, composite film consisting of the following layers: a surface layer, an adhesive layer which is optional, a gas barrier layer, second adhesive layer which is also optional, and a heat sealable layer (abstract). The surface layer comprises a polypropylene matrix resin and filler (col 1, lines 60+). The barrier layer comprises polyamide, polyvinyl alcohol, ethylene vinyl alcohol, or polyesters (col 2, lines 3-12). The heat sealing layer comprises a polyolefin or amorphous polyester (col 2, lines 14 and 15) such as LLDPE, polybutylene, EVA, ethylene-carboxylic acid copolymers, and mixtures thereof. The adhesives may be identical or unique (see the examples). The individual layers have the following thicknesses: surface layer

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(25-75 microns), barrier layer (10-30 microns), and heat sealable layer (15-150 microns). The examiner notes that these ranges overlap Applicant's claimed ranges (ratios). Therefore, Bochow renders obvious the claimed ratios.

Bochow teaches use of a polypropylene base film comprising filler, but does not teach how much filler should be added to the film. However, Hattori teaches a thermoformable laminate comprising a filled polypropylene layer (abstract). The filler should comprise 5-60% of the layer and be selected from the group consisting of calcium carbonate, silica, talc, clay, mica, titanium dioxide, barium sulfate, and glass fiber (col 4, lines 12-19). If the amount of filler is less than 5 parts by weight, the heat resistance, stiffness, and dimensional stability of the thermoformed product is insufficient. Thus, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to add 5-50 parts by weight filler to the propylene layer taught in Bochow in order to improve the laminate's heat resistance, stiffness, and dimensional stability.

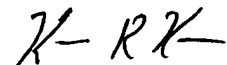
With respect to claims 13 and 14, Bochow does not teach that the laminate may be formed on an FFS machine. However, the courts hold that processing limitations do not patentably distinguish a claimed product from a similar product in the prior art unless applicant shows that the processing limitations inherently result in a materially different product. Applicant has failed to meet such a burden. Therefore, the examiner takes the position that the laminate taught by Bochow is identical to the claimed laminate formed on an FFS machine.

Conclusion

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14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The family of Shah patents (Pat. Nos. 5,543,223; 5,004,647; and 4,755,419) teaches multilayered laminates comprising the claimed arrangement of layers. Mueller et al. (Pat. No. 4,788,105) teaches a packaging laminate with the claimed arrangement of layers. Vurlet (Pat. No. 5,237,797) teaches a method of vacuum packaging. Furthermore, Vurlet teaches that packaging fills normally comprise the claimed arrangement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is (703) 305-0025. The examiner can normally be reached on Monday-Friday from 7:00 a.m. to 4:00 p.m.


Kevin R. Kruer
Patent Examiner


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